Year 4 Sound – Big Idea: How do we hear sounds?

Vocabulary	Definition
Vibration	A quick movement back and forth.
Sound wave	Vibrations travelling from a sound source.
Volume	The loudness of a sound
Insulation	is a type of material or technique used to block or reduce the amount of sound that travels from one place to another.
Amplitude	The size of a vibration. A larger amplitude = a louder sound.
pitch	How low or high a sound is
Sound proof	To prevent sound from passing through.
Eardrum	A part of the ear which is a thin, tough layer of tissue that is stretched out like a drum skin. It separates the outer ear from the middle and inner ear. Sound waves make the eardrum vibrate.
vacuum	A space where there is nothing. There are no particles in a vacuum.
Absorb sound	To take in sound energy. Absorbent materials have the effect of muffling sound.
Distance	A measurement of length between two points
Particles	Solids, liquids and gases are made of particles. They are so small we are unable to see them.

What is sound and how is it made ?

How Sounds Are Made

All sounds are created by vibrations. When an object stops vibrating, the sound stops immediately.



How does sound travel ?

How Sound Travels

Vibrations pass energy from particle to particle. Sound travels fastest through solids because particles are tightly packed, slower through liquids, and slowest through gases. Sound cannot travel through a vacuum.



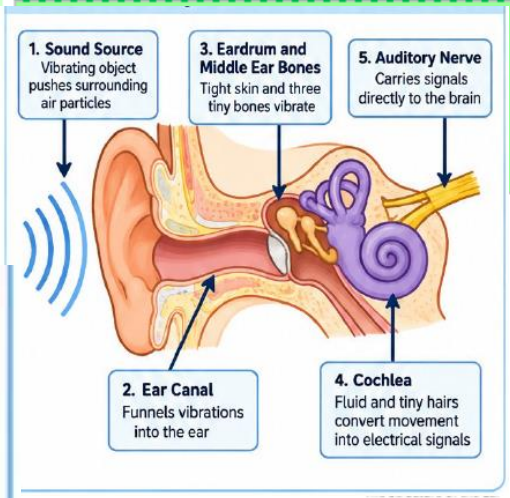
Pitch

Pitch vs Volume

Pitch depends on vibration speed (shorter, tighter, or thinner objects vibrate faster for a higher pitch). Volume depends on vibration size or amplitude (striking with greater force creates a louder sound). Over distance, sound energy spreads out and becomes fainter.



How do we hear ?



How to protect our ears

Loud noises can damage our ears and result in hearing loss after a long time. There are different ways of protecting our ears

